

DETERMINATION OF PICK-SLOAN MISSOURI BASIN PROGRAM, EASTERN DIVISION
ANNUAL TRANSMISSION REVENUE REQUIREMENT

*Western Area Power Administration
Upper Great Plains Region*

Line No.	Description	1996 Amount	Source/Notes
1			
2	A. Operation and Maintenance Expense for Transmission		
3			
4	Transmission O&M Expense	\$31,971,787	O&M Expenses Worksheet, C6L16
5	Transmission of Electricity by Others	\$0	
6	Total O&M Expense for Transmission	\$31,971,787	L4 + L5
7			
8	Net Transmission Plant Investment	\$401,249,137	Net Plant Investment Worksheet, C6L13
9			
10	O&M as % of Net Transmission Plant Investment	7.968%	L6/L8
11			
12			
13	BA&G Expense for Transmission		
14			
15	Transmission A&G Expense	\$11,818,112	A&G Expenses Worksheet, C6L13
16			
17	Net Transmission Plant Investment	\$401,249,137	L8
18			
19	A&G as % of Net Transmission Plant Investment	2.945%	L15/L17
20			
21			

Appendix E-Integrated System Transmission Cost Support - Western

DETERMINATION OF PICK-SLOAN MISSOURI BASIN PROGRAM, EASTERN DIVISION
ANNUAL TRANSMISSION REVENUE REQUIREMENT

Western Area Power Administration
Upper Great Plains Region

Line No.	Description	1996 Amount	Source/Notes
22	C. Depreciation Expense for Transmission		
23			
24	Transmission Depreciation Expense	\$15,797,769	Depreciation Expense Worksheet, C6L4
25			
26	Net Transmission Plant Investment	\$401,249,137	L8
27			
28	Depreciation as a % of Net Transmission Plant Investment	3.937%	L24/L26
29			
30			
31	D. Taxes Other than Income Taxes for Transmission		
32			
33	Not applicable.		
34			
35			
36	E. Allocation of General Plant to Transmission		
37			
38	No General Plant identified at this time, all plant is identified as either generation or transmission related.		
39			
40			
41	F. Cost of Capital		
42			
43	Weighted Transmission Composite Interest Rate	5.744%	Cost of Capital Worksheet, C6L12
44			
45			

Integrated System Transmission Cost Support Western

DETERMINATION OF PICK-SLOAN MISSOURI BASIN PROGRAM, EASTERN DIVISION
ANNUAL TRANSMISSION REVENUE REQUIREMENT

Western Area Power Administration
Upper Great Plains Region

Line No.	Description	1996 Amount	Source/Notes
46	Transmission Fixed Charge Rate		
47			
48	Operation and Maintenance Expense	7.968%	L10
49			
50	A&G Expense	2.915%	L19
51			
52	Depreciation Expense	3.937%	L28
53			
54	Taxes Other than Income Taxes	0.000%	
55			
56	Allocation of General Plant to Transmission	0.000%	
57			
58	Cost of Capital	5.744%	L43
59			
60	Total	20.594%	
61			
62			
63	Transmission Revenue Requirement		
64			
65	Transmission Fixed Charge Rate	20.594%	L60
66			
67	Net Transmission Plant Investment	\$401,249,137	L8
68			
69	Annual Western Transmission Cost	\$82,634,119	L65 * L67
70			
71	Less Western 3rd Party Transmission Receipts	(\$4,130,378)	UGPR Results of Operations, Schedule 10
72			
73	Western Annual Transmission Revenue Requirement	\$78,503,741	L69 + L71
74			

Integrated System Transmission Cost Support-Western

FY 1996 NET PLANT INVESTMENT
Pick-Sloan Missouri Basin Program - Eastern Division
(\$)

Line No.	(1)	(2)	(3)	(4)	(5)
		WESTERN UGPR	WESTERN RMR	COE	BOR
1					
2	Total PS Plant-in-Service	660,261,129 1/	449,421,215 2/	871,589,751 3/	331,490,316 3/ 2,31
3	PS-ED Transmission Plant-in-Service	639,801,025 4/	1,087,460 5/	29,368,947 6/	0 6/
4	PS-ED Generation Plant-in-Service	18,074,872 7/	0	842,220,804 1,2-L3	331,490,316 1,2-L3 1,19
5	Generation Plant to Total Plant	0.0274 1,4/L2	0.0000 1,4/L2	0.9663 1,4/L2	1.0000 1,4/L2
6	Transmission Plant to Total Plant	0.9690 1,3/L2	0.0024 1,3/L2	0.0337 1,3/L2	0.0000 1,3/L2
9					
10	PS Accumulated Depreciation	268,825,829 8/	106,391,372 9/	289,864,695 10/	128,027,579 11/ 79
11	PS-ED Trans. Accumulated Depreciation	258,983,627 1,6*L10	257,434 1,6*L10	9,767,234 1,6*L10	0 1,6*L10 26
12	PS-ED Gen. Accumulated Depreciation	8,903,891 1,5*L10	0 1,5*L10	280,097,461 1,5*L10	128,027,579 1,5*L10 41
13	PS-ED Net Transmission Plant	380,817,398 1,3-L11	830,026 1,3-L11	19,601,713 1,3-L11	0 1,3-L11 40
14	PS-ED Net Generation Plant	9,170,981 1,4-L12	0 1,4-L12	562,123,343 1,4-L12	203,462,737 1,4-L12 77

1/ Transmission Plant-in-Service Worksheet, C2L425.

2/ Includes 101 and 106 plant accounts from FY 1996 Rocky Mountain CSR-Pick-Sloan Missouri River Basin Results of Operations (RMR Results of Operations), Schedule 1.

3/ FY 1996 Historical Financial Data in Support of the Power Repayment Study for the P-SMBP, Schedule 17.

4/ Transmission Plant-in-Service Worksheet, C5L425.

5/ Transmission Plant-in-Service Worksheet, C5L430.

6/ Transmission Plant-in-Service Worksheet, C5L434.

7/ Transmission Plant-in-Service Worksheet, C4L425.

8/ FY 1996 Upper Great Plains CSR Results of Operations for the Pick-Sloan Missouri River Basin and the Fort Peck Power System (UGPR Results of Operations), Schedule 4.

9/ RMR Results of Operations, Schedule 4.

10/ FY 1996 Historical Financial Data in Support of the Power Repayment Study for the P-SMBP, Schedule 13A.

11/ FY 1996 Historical Financial Data in Support of the Power Repayment Study for the P-SMBP, Schedules 9A-10.

Integrated System Transmission Cost Support-Western

FY 1996 O&M Expenses
Pick-Sloan Missouri Basin Program - Eastern Division
(\$)

Line No.	(1)	(2) WESTERN UGPR 1/	(3) WESTERN RMR 2/	(4) COE 3/	(5) BOR 3/	(6) Total
1						
2	Total Electric Operating Expense	63,430,887	27,932,445			91,363,332
3						
4	Less:					
5	Other Power Supply Expenses	20,159,645	691,511			20,851,156
6	Annual Leave Liability	47,989	27,963			75,952
7	A&G Expenses	12,182,085	5,648,023			17,830,108
8	Sunflower Payment		1,597,537			
9						
10	Plus:					
11	Moveable Property Interest	1,109,720	625,956			1,735,676
12						
13	COE/BOR Total			22,784,228	19,895,004	42,679,232
14	PS Total O&M	32,150,888	20,593,367	22,784,228	19,895,004	95,423,487
15						
16	PS-ED Transmission O&M 4/	31,154,224	49,830	761,731	0	31,971,787
17						
18	PS-ED Generation O&M 5/	880,141	0	22,016,194	19,895,004	42,791,640

1/ All Western UGPR O&M Expenses are from the FY 1996 UGPCSR - Pick-Sloan Missouri River Basin and UGPCSR - Ft. Peck Power System Results of Operations, Schedule 11; except Moveable Property Interest, which is from Schedule 5.

2/ All Western RMR O&M Expenses are from the FY 1996 RMCSR - Pick-Sloan Missouri River Basin Results of Operations, Schedule 11; except Moveable Property Interest, which is from Schedule 5.

3/ Total COE and BOR O&M Expenses are from the FY 1996 Historical Financial Data in Support of the Power Repayment Study for the Pick-Sloan Missouri Basin Program, Schedule 14.

4/ The portion of O&M expenses allocated to PS-ED transmission is based on the ratio of transmission plant-in-service to total plant-in-service, calculated on L.6 of the Net Plant Investment Worksheet.

5/ The portion of O&M expenses allocated to PS-ED generation is based on the ratio of generation plant-in-service to total plant-in-service, calculated on L.5 of the Net Plant Investment Worksheet.

Integrated System Transmission Cost Support - Western

FY 1996 A&G Expenses
Pick-Sloan Missouri Basin Program - Eastern Division
(\$)

Line No.	(1) Object Class	(2) WESTERN UGPR 1/	(3) WESTERN RMR 2/	(4) COE 3/	(5) BOR 3/	(6) Total
1						
2	2541	0	0	0	0	0
3	2542	0	0	0	0	0
4	2549	0	0	0	0	0
5	2562	5,543,529	2,749,072	0	0	8,292,601
6	2563	2,499,556	783,876	0	0	3,283,432
7	2591	2,728,568	1,245,679	0	0	3,974,247
8	2592	2,187,035	1,262,865	0	0	3,449,900
9	25GA	-355,691	-189,092	0	0	-544,783
10	25GH	-420,912	-204,377	0	0	-625,289
11	PS Total A&G	12,182,085	5,648,023	0	0	17,830,108
12						
13	PS-ED Transmission A&G 4/	11,801,445	13,666	0	0	11,818,112
14						
15	PS-ED Generation A&G 5/	333,489	0	0	0	333,489

1/ Western UGPR A&G Expenses are from the FY 1996 UGPCSR - Pick-Sloan Missouri River Basin and UGPCSR - Ft. Peck Power System Results of Operations, Schedule 11A.

2/ Western RMR A&G Expenses are from the FY 1996 RMCSR - Pick-Sloan Missouri River Basin Results of Operations, Schedule 11A.

3/ A&G Expenses for COE and BOR are unavailable. All COE and BOR A&G expenses are included in O&M Expenses.

4/ The portion of A&G expenses allocated to PS-ED transmission is based on the ratio of transmission plant-in-service to total plant-in-service, calculated on L6 of the Net Plant Investment Worksheet.

5/ The portion of A&G expenses allocated to PS-ED generation is based on the ratio of generation plant-in-service to total plant-in-service, calculated on L5 of the Net Plant Investment Worksheet.

Integrated System Transmission Cost Support - Western

FY 1996 DEPRECIATION EXPENSE
Pick-Sloan Missouri Basin Program - Eastern Division
(\$)

Line No.	(1)	(2) WESTERN UGPR	(3) WESTERN RMR	(4) COE	(5) BOR
1					
2	PS FY 1996 Depreciation Expense	15,891,793 1/	10,579,714 2/	9,031,844 3/	4,880,347 4/
3					
4	PS-ED Transmission Depreciation 5/	15,467,733	25,600	304,437	0
5					
6	PS-ED Generation Depreciation 6/	370,897		8,730,407	4,880,347

1/ UGPR Results of Operations, Schedule 4.

2/ RMR Results of Operations, Schedule 4.

3/ FY 1996 Historical Financial Data in Support of the Power Repayment Study for the P-SMBP, Schedule 13A.

4/ From data provided by BOR.

5/ The portion of depreciation expense allocated to PS-ED transmission is based on the ratio of transmission plant-in-service to total plant-in-service, calculated on L6 of the Net Plant Investment Worksheet.

6/ The portion of depreciation expense allocated to PS-ED generation is based on the ratio of generation plant-in-service to total plant-in-service, calculated on L5 of the Net Plant Investment Worksheet.

Integrated System Transmission Cost Support Western

FY 1996 COST OF CAPITAL
Pick-Sloan Missouri Basin Program - Eastern Division
(\$)

Line No.	(1)	(2)	(3)	(4)	(5)	(6)
		WESTERN UGPR	WESTERN RMR	COE	BOR	Total
1						
2	Long Term Debt:					
3	PS FY 1995 Balances	389,037,650 1/	318,616,482 1/	397,141,058 1/	113,967,913 1/	1,218,763,103
4	PS FY 1996 Balances	379,538,769 1/	338,150,874 1/	399,404,734 1/	85,486,216 1/	1,202,580,593
5	PS-ED FY 1996 Transmission Balance	369,408,989 2/	818,220 2/	13,458,277 2/	0 2/	383,685,486
6	PS-ED FY 1996 Generation Balance	8,723,315 3/	0 3/	385,946,457 3/	85,486,216 3/	480,155,988
7						
8	Interest Expenses:					
9	PS FY 1996 Simple Interest	22,833,000 4/	26,954,000 5/	11,560,000 6/	11,254,000 6/	
10	Average Interest Rate	5.87% 1.9/1.3	8.46% 1.9/1.3	2.91% 1.9/1.3	9.87% 1.9/1.3	
11	Transmission Plant Factor	0.9546 7/	0.0016 8/	0.0438 9/	0.0000 10/	
12	Weighted Trans. Composite Rate					5.74%
13	Generation Plant Factor	0.0152 12/	0.0000 13/	0.7067 14/	0.2781 15/	
14	Weighted Gen. Composite Rate					4.89%

1/ FY 1996 Historical Financial Data in Support of the Power Repayment Study for the P-SMBP, Schedules 21X and 21RX.

2/ L4*L6, Net Plant Investment Worksheet.

3/ L4*L5, Net Plant Investment Worksheet.

4/ UGPR Results of Operations, Schedule 5.

5/ RMR Results of Operations, Schedule 5.

6/ FY 1995 Historical Financial Data in Support of the Power Repayment Study for the P-SMBP, Schedules 21X and 21RX.

7/ C2L3, Net Plant Investment Worksheet/C6L3, Net Plant Investment Worksheet.

8/ C3L3, Net Plant Investment Worksheet/C6L3, Net Plant Investment Worksheet.

9/ C4L3, Net Plant Investment Worksheet/C6L3, Net Plant Investment Worksheet.

10/ C5L3, Net Plant Investment Worksheet/C6L3, Net Plant Investment Worksheet.

11/ (C2L10*C2L11)+(C3L10*C3L11)+(C4L10*C4L11)+(C5L10*C5L11).

12/ C2L4, Net Plant Investment Worksheet/C6L4, Net Plant Investment Worksheet.

13/ C3L4, Net Plant Investment Worksheet/C6L4, Net Plant Investment Worksheet.

14/ C4L4, Net Plant Investment Worksheet/C6L4, Net Plant Investment Worksheet.

15/ C5L4, Net Plant Investment Worksheet/C6L4, Net Plant Investment Worksheet.

16/ (C2L10*C2L13)+(C3L10*C3L13)+(C4L10*C4L13)+(C5L10*C5L13).

TRANSMISSION PLANT-IN-SERVICE
AS OF 9/30/96
Pick-Sloan Missouri Basin Program, Eastern Division

Line No.	(1) DESCRIPTION	(2) FY 1996 TOTALS (\$)	(3) MISCELLANEOUS ADJUSTMENTS (\$)	(4) GENERATION ADJUSTMENTS (\$)	(5) TRANSMISSION TOTALS (\$)	(6) SOURCE/NOTES
1	Transmission Lines					
2	BEULAH-GARRISON	352,214			352,214	Column 2 includes 101 and 106 plant accounts Great Plains CSR Results of Operations, Sched Sloan Missouri River Basin and the Fort Peck I
3	BISMARCK-GLENHAM	3,247,942			3,247,942	
4	BISMARCK-JAMESTOWN NO. 1	2,707,201			2,707,201	
5	BISMARCK-JAMESTOWN NO. 2	3,096,816			3,096,816	
6	BISMARCK-MEDORA	4,783,893			4,783,893	
7	BROOKINGS-SIOUX FALLS	684,316			684,316	
8	BROOKINGS-WATERTOWN NO. 1	645,506			645,506	
9	BROOKINGS-WATERTOWN NO. 2	3,318,558			3,318,558	
10	BROOKINGS-WHITE 115/230KV	2,101,926			2,101,926	
11	CARRINGTON-JAMESTOWN	377,544			377,544	
12	CHARLIE CREEK-BELFIELD	13,674,183			13,674,183	
13	CONRAD-SHELBY #2	5,804,318			5,804,318	
14	CRESTON-MARYVILLE	1,366,481			1,366,481	
15	DAWSON COUNTY - MILES CITY	2,622,978			2,622,978	
16	DAWSON-GLENDIVE	12,867			12,867	
17	DAWSON-MEDORA	2,862,712			2,862,712	
18	DAWSON-O'FALLON CREEK	317,413			317,413	
19	DAWSON-WILLISTON	1,258,900			1,258,900	
20	DENISON-CRESTON	2,105,834			2,105,834	
21	DEVILS LAKE-CARRINGTON	2,856,050			2,856,050	
22	DEVILS LAKE-LAKOTA	1,647,978			1,647,978	
23	EDGELEY-FORMAN	377,081			377,081	
24	EDGELEY-GROTON	771,572			771,572	
25	FARGO-GRAND FORKS	1,128,721			1,128,721	
26	FARGO-MORRIS	3,974,375			3,974,375	
27	FORMAN-SUMMIT (BISMARCK)	922,098			922,098	
28	FORMAN-SUMMIT (HURON)	487,534			487,534	
29	FORT PECK-DAWSON #1	493,203			493,203	
30	FORT PECK-DAWSON #2	3,609,447			3,609,447	
31	FORT PECK-HAVRE	28,650,661			28,650,661	
32	FORT PECK-WHATELY	160,325			160,325	
33	FORT PECK-WILLISTON	1,426,555			1,426,555	
34	FORT PECK-WOLF POINT	189,603			189,603	
35	FORT PECK-WOLF POINT #2	7,663,747			7,663,747	
36	FORT RANDALL-FORT THOMPSON 1&2	6,717,270			6,717,270	
37	FORT RANDALL-GAVIN'S POINT	1,014,593			1,014,593	
38	FORT RANDALL-GREGORY	630,777			630,777	
39	FORT RANDALL-MT VERNON	758,088			758,088	

Integrated System Transmission Cost Support - Western

**TRANSMISSION PLANT-IN-SERVICE
AS OF 9/30/96
Pick-Sloan Missouri Basin Program, Eastern Division**

Line No.	(1) DESCRIPTION	(2)	(3)	(4)	(5)	(6) SOURCE/NOTES
		FY 1996 TOTALS (\$)	MISCELLANEOUS ADJUSTMENTS (\$)	GENERATION ADJUSTMENTS (\$)	TRANSMISSION TOTALS (\$)	
40	FORT RANDALL-O'NEILL	502,230			502,230	
41	FORT RANDALL-SIOUX CITY 1&2	8,532,125			8,532,125	
42	FORT THOMPSON-GRAND ISLAND	16,397,505			16,397,505	
43	FORT THOMPSON-HURON 230-KV 1&2	3,064,794			3,064,794	
44	FORT THOMPSON-SIOUX FALLS 1&2	9,542,122			9,542,122	
45	GARRISON-BISMARCK 230KV 1&2	3,068,022			3,068,022	
46	GARRISON-JAMESTOWN	4,089,817			4,089,817	
47	GARRISON-MALLARD	1,177,312			1,177,312	
48	GARRISON-WM. J. NEAL	545,452			545,452	
49	GAVINS POINT-BELDEN	455,727			455,727	
50	GAVINS POINT-SIOUX FALLS	1,094,708			1,094,708	
51	GRANITE FALLS- MORRIS	2,310,884			2,310,884	
52	GRANITE FALLS-MINNESOTA VALLEY	156,778			156,778	
53	GREAT FALLS-CONRAD	12,811,702			12,811,702	
54	GREGORY-MISSION	899,833			899,833	
55	GROTON-HURON	1,206,576			1,206,576	
56	GROTON-SUMMIT	647,991			647,991	
57	HAVRE-RAINBOW	505,538			505,538	
58	HAVRE-SHELBY#2	1,652,763			1,652,763	
59	HESKETT-DEVAUL	434,209			434,209	
60	HETTINGER-NEW UNDERWOOD	10,966,327			10,966,327	
61	HURON-MT VERNON	617,623			617,623	
62	HURON-WATERTOWN 230KV 1&2	3,695,532			3,695,532	
63	JAMESTOWN-EDGELEY	324,360			324,360	
64	JAMESTOWN-FARGO NO. 1	2,680,294			2,680,294	
65	JAMESTOWN-FARGO NO. 2	2,811,544			2,811,544	
66	JAMESTOWN-GRAND FORKS	13,349,774			13,349,774	
67	JAMESTOWN-VALLEY CITY	304,934			304,934	
68	LEEDS-DEVILS LAKE	779,748			779,748	
69	LEEDS-ROLLA	246,946			246,946	
70	MALLARD-RUGBY	1,282,436			1,282,436	
71	MARTIN-MISSION	750,437			750,437	
72	MARTIN-PHILIP	794,022			794,022	
73	MAURINE-RAPID CITY	1,284,931			1,284,931	
74	MILES CITY-BAKER	8,438,591			8,438,591	
75	MILES CITY-CUSTER	3,321,747			3,321,747	
76	NEW UNDERWOOD-PHILIP	802,149			802,149	
77	NEW UNDERWOOD-RAPID CITY NO. 1	388,492			388,492	
78	NEW UNDERWOOD-RAPID CITY NO. 2	309,991			309,991	
79	NEW UNDERWOOD-STEGALL (HURON)	2,672,947			2,672,947	

Integrated System Transmission Cost Support - Western